

I submit the following in response to the FCC's request for comment relating to the tentative conclusion set forth in the "RF Safety" section of the Notice of Proposed Rule Making adopted September 9, 2004 in Docket Nos. 04-356 and 02-353 (paragraph 114). That section sets a threshold for environmental review of 1000 watts of effective radiated power ("ERP") and asserts that this will prevent human exposure to potentially unsafe levels of radio frequency ("RF") radiation in compliance with the National Environmental Policy Act (NEPA).

I oppose the FCC's adoption of the proposed rules since I believe the rules are scientifically incorrect. The assertion that the rule will prevent unsafe exposure is not properly supported.

Radio frequency radiation in the frequency range under consideration penetrates the human body coupling to cell membranes, altering the movements of large biological molecules, and causing a degree of ionization in aqueous media. Radio frequency radiation in the frequency range under consideration must be treated, at this time, with the seriousness, regarding biological and medical effects, of an ionizing radiation exposure (single versus multi-photon ionization) or chemical exposure (changes in chemical potential).

As such, it is incumbent upon any agency claiming safety to provide disease rate data that is both highly accurate and precise, with confirming data from well-conducted human epidemiological studies. Radio frequency radiation must be regulated at the same level of human risk commonly used with other similar agents such as food additives, and ionizing radiations. Specifically, the claiming agency must demonstrate no increased mortality or morbidity at the level of no more than one case in 10,000 persons for the duration of a human life.

Having no data on disease rates with the precision and accuracy demanded by human use and exposure, the FCC claim of safety must be viewed as unsupported.

A way ahead can be found as follows. Physical and chemical principles can be used to compute membrane depolarizations by the intended radio frequency fields. In a similar manner, estimates of ionization within tissue can be made as well as estimates of macro molecular mechanical perturbations (see documentation associated with the PAVE PAWS health review). Degree of ionization can be related to human disease using ionization radiation schedules. Based on membrane, ionization and molecular mechanical stress analysis, plus review of existing data, a prudent exposure level can be assigned but, at this time, without the certain claim of safety. It may be ethically appropriate to use this assigned level as a tentative permissible level given a defined commitment to sufficient, timely animal research estimating disease rates in chronic radiation fields, with human epidemiological verification.

Provided as a private citizen and not representing the views or opinions of the Department of Defense or any of its component elements.

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